

Response to Office Action
Docket No. 013.0226.US.UTL**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (previously presented): A system for generating a two-dimensional
2 spatial arrangement of a cluster rendering, comprising:
3 clusters stored in a storage to represent concepts and terms extracted from
4 a set of documents;
5 a set of the stored clusters selected with each selected cluster sharing a
6 common theme comprising one or more of the extracted concepts and terms that
7 are shared; and
8 a placement module to place the set of the stored clusters into a grouping,
9 comprising:
10 an anchor point selector submodule to choose one of the selected
11 clusters and to determine an anchor point on the chosen cluster that is located on
12 an open edge of the chosen cluster along a vector defined from a center of the
13 chosen cluster, wherein the vector intersects the anchor point; and
14 a cluster placement submodule to place a center of a further
15 selected cluster outside of the anchor point on the vector and to limit overlap of
16 the chosen cluster and the further selected cluster; and
17 an arrangement submodule to arrange one or more of the
18 remaining selected clusters into an arrangement of clusters that each have a center
19 originating outside of the anchor point and on the vector; and
20 a display and visualization module to display the grouping via a display.

- 1 2. (previously presented): A system according to Claim 1, further
2 comprising:
3 a sort module to sort the selected clusters in the set of the stored clusters
4 by cluster size.

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1 Claim 3 (canceled).

1 Claim 4 (canceled).

1 5. (previously presented): A system according to Claim 1, further
2 comprising:

3 an angle submodule to define the vector at a normalized angle.

1 Claim 6 (canceled).

1 Claim 7 (canceled).

1 8. (previously presented): A system according to Claim 1, further
2 comprising:

3 a rendering module to render each selected cluster as a circle having an
4 independent radius.

1 9. (previously presented): A system according to Claim 8, wherein
2 each circle has a volume dependent on a number of concepts contained in the
3 selected cluster.

1 10. (previously presented): A system according to Claim 1, further
2 comprising:

3 a rendering module to render each selected cluster as a convex volume,
4 wherein each convex shape represents visualized data for a semantic concept
5 space.

1 11. (previously presented): A system according to Claim 1, wherein
2 the placement module determines a further anchor point located on another open
3 edge of the chosen cluster where a center of a further selected cluster is placed
4 outside the further anchor point on a further vector and limits overlap of the
5 chosen cluster and the further selected cluster, further comprising:

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6 a grafting submodule arranging one or more of the remaining selected
7 clusters into an additional arrangement of clusters that each have a center
8 originating outside of the further anchor point and on the further vector.

1 Claim 12 (canceled).

1 Claim 13 (canceled).

1 14. (previously presented): A method for generating a two-
2 dimensional spatial arrangement of a cluster rendering, comprising:
3 storing clusters in a storage to represent concepts and terms extracted from
4 a set of documents;
5 selecting a set of the clusters with each selected cluster sharing a common
6 theme comprising one or more of the extracted concepts and terms that are
7 shared; and

8 placing the set of the stored clusters into a grouping, comprising:
9 choosing one of the selected clusters and determining an anchor
10 point on the chosen cluster that is located on an open edge of the chosen cluster
11 along a vector defined from a center of the chosen cluster, wherein the vector
12 intersects the anchor point; and

13 placing a center of a further selected cluster outside of the anchor
14 point on the vector and limiting overlap of the chosen cluster and the further
15 selected cluster; and

16 arranging one or more of the remaining selected clusters into an
17 arrangement of clusters that each have a center originating outside of the anchor
18 point and on the vector; and

19 displaying the grouping via a display.

1 15. (previously presented): A method according to Claim 14, further
2 comprising:
3 sorting the selected clusters in the set of the stored clusters by cluster size.

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1 Claim 16 (canceled).

1 Claim 17 (canceled).

1 18. (previously presented): A method according to Claim 14, further
2 comprising:
3 defining the vector at a normalized angle.

1 Claim 19 (canceled).

1 Claim 20 (canceled).

1 21. (previously presented): A method according to Claim 14, further
2 comprising:
3 rendering each selected cluster as a circle having an independent radius.

1 22. (previously presented): A method according to Claim 21, further
2 comprising:
3 calculating a volume for each circle dependent on a number of concepts
4 contained in the selected cluster.

1 23. (previously presented): A method according to Claim 14, further
2 comprising:
3 rendering each cluster as a convex volume, wherein each convex shape
4 represents visualized data for a semantic concept space.

1 24. (previously presented): A method according to Claim 14, further
2 comprising:
3 determining a further anchor point located on another open edge of the
4 chosen cluster where a center of a further selected cluster is placed outside the
5 further anchor point on a further vector and limiting overlap of the chosen cluster
6 and the further selected cluster; and

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7 arranging one or more of the remaining selected clusters into an additional
8 arrangement of clusters that each have a center originating outside of the further
9 anchor point and on the further vector.

1 Claim 25 (canceled).

1 Claim 26 (canceled).

1 27. (previously presented): A computer-readable storage medium
2 storing code for causing a computer to perform the method according to Claims
3 14, 15, 18, 21, 23, and 24.

1 28. (previously presented): A system for arranging concept clusters in
2 thematic relationship in a two-dimensional visual display area, comprising:

3 a stored theme to logically represent one or more concepts based on terms
4 extracted from a document set;

5 a plurality of clusters selected to represent a multi-dimensional
6 visualization space stored as clusters in a storage, wherein each selected cluster
7 comprises at least one of the concepts in one such theme that is in common with
8 the other selected clusters; and

9 a placement module to place the clusters into a grouping, comprising:

10 a listing submodule to combine in order each ungrouped cluster
11 from the selected clusters for the shared common theme into a list of placeable
12 clusters;

13 a grouping submodule to add each placeable clusters list into [[a]]
14 the grouping with one or more other placeable clusters lists, wherein the clusters
15 in the other placeable clusters lists each comprise at least one concept in the
16 shared common theme;

17 an anchor submodule to choose a selected cluster and to determine
18 an anchor point on the chosen cluster that is located on an open edge of the
19 chosen cluster along a vector defined from a center of the chosen cluster, wherein
20 the vector intersects the anchor point; and

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21 a cluster placement submodule to place a center of a further
22 selected cluster outside of the anchor point on the vector and to limit overlap of
23 the chosen cluster and the further selected cluster; and
24 a grafting submodule to place the center of a selected cluster and to
25 graft the clusters in the remaining placeable clusters lists in the grouping outside
26 the anchor point and along the vector; and
27 a display and visualization module to display the clusters via a display.

1 29. (previously presented): A system according to Claim 28, further
2 comprising:
3 a sort module sorting the clusters in each placeable clusters list in
4 sequence.

1 30. (original): A system according to Claim 29, wherein the sequence
2 comprises a number of documents containing the one or more logically
3 represented concepts.

1 31. (original): A system according to Claim 29, wherein the sequence
2 comprises one of ascending and descending order.

1 32. (original): A system according to Claim 28, wherein each cluster is
2 formed as one of a circular and non-circular convex volume.

1 33. (previously presented): A system according to Claim 28, wherein
2 the vector is defined at normalized angles.

1 Claim 34 (canceled).

1 35. (previously presented): A system according to Claim 28, wherein
2 the shared common theme contains concepts within a pre-specified range of
3 variance.

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1 36. (previously presented): A method for arranging concept clusters in
2 thematic relationship in a two-dimensional visual display area, comprising:

3 logically representing one or more concepts based on terms extracted from
4 a document set as a theme;

5 selecting clusters representing a multi-dimensional visualization space
6 stored as clusters in a storage, wherein each selected cluster comprises at least one
7 of the concepts in one such theme that is in common with the other selected
8 clusters; and

9 placing the clusters into a grouping, comprising:

10 combining in order each ungrouped cluster from the selected
11 clusters for the shared common theme into a list of placeable clusters;

12 adding each placeable clusters list into the grouping with one or
13 more other placeable clusters lists, wherein the clusters in the other placeable
14 clusters lists each comprise at least one concept in the shared common theme;

15 choosing a selected cluster and determining an anchor point on the
16 chosen cluster that is located on an open edge of the chosen cluster along a vector
17 defined from a center of the chosen cluster, wherein the vector intersects the
18 anchor point; and

19 placing a center of a further selected cluster outside of the anchor
20 point on the vector and limiting overlap of the chosen cluster and the further
21 selected cluster; and

22 placing the center of a selected cluster and grafting the clusters in
23 the remaining placeable clusters lists in the grouping outside the anchor point
24 along the vector; and

25 displaying the grouping via a display.

1 37. (previously presented): A method according to Claim 36, further
2 comprising:

3 sorting the clusters in each placeable clusters list in sequence.

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1 38. (original): A method according to Claim 37, wherein the sequence
2 comprises a number of documents containing the one or more logically
3 represented concepts.

1 39. (original): A method according to Claim 37, wherein the sequence
2 comprises one of ascending and descending order.

1 40. (original): A method according to Claim 36, further comprising:
2 forming each cluster as one of a circular and non-circular convex volume.

1 41. (previously presented): A method according to Claim 36, further
2 comprising:
3 defining the vector at normalized angles.

1 Claim 42 (canceled).

1 43. (previously presented): A method according to Claim 36, wherein
2 the shared common theme contains concepts within a pre-specified range of
3 variance.

1 44. (previously presented): A computer-readable storage medium
2 storing code for causing a computer to perform the method according to Claims
3 36, 37, 38, 39, 40, 41, and 43.

1 45. (previously presented): A system according to Claim 1, wherein
2 the common theme is defined by selecting the shared extracted terms to have
3 common semantic meanings.

1 46. (currently amended): A system according to Claim 1, wherein at
2 least one additional set of the stored clusters are selected with each selected
3 additional cluster sharing a further common theme comprising one or more of the
4 extracted terms that are shared, wherein the further common theme is different

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5 than the common theme; and the at least one additional set of the stored clusters is
6 placed into the grouping.

1 47. (currently amended): A system according to Claim 1, wherein at
2 least one additional cluster is selected comprising the extracted terms that are
3 unique from each other cluster; and the at least one additional cluster is placed
4 into the grouping.

1 Claim 48 (canceled).

1 49. (previously presented): A method according to Claim 14, further
2 comprising:
3 defining the common theme by selecting the shared extracted terms to
4 have common semantic meanings.

1 50. (currently amended): A method according to Claim 14, further
2 comprising:
3 selecting at least one additional set of the stored clusters with each
4 selected additional cluster sharing a further common theme comprising one or
5 more of the extracted terms that are shared, wherein the further common theme is
6 different than the common theme; and
7 placing the at least one additional set of the stored clusters into the
8 grouping.

1 51. (currently amended): A method according to Claim 14, further
2 comprising:
3 selecting at least one additional cluster comprising the extracted terms that
4 are unique from each other cluster; and
5 placing the at least one additional cluster into the grouping.

1 Claim 52 (canceled).

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1 53. (currently amended): A system according to Claim 28, wherein at
2 least one additional [[set]] plurality of the clusters is selected, wherein each
3 selected additional cluster comprises one or more of the extracted terms that is in
4 common with the other selected clusters in a further common theme that is
5 different than the shared common theme; and the at least one additional [[set]]
6 plurality of the stored clusters is placed into the grouping.

1 54. (currently amended): A system according to Claim 28, wherein at
2 least one additional cluster is selected that comprises the extracted terms that are
3 unique from each other cluster; and the at least one additional cluster is placed
4 into the grouping.

1 55. (currently amended): A method according to Claim 36, further
2 comprising:
3 selecting ~~at least one~~ additional set of the clusters, wherein each selected
4 additional cluster comprises one or more of the extracted terms that is in common
5 with the other selected clusters in a further common theme that is different than
6 the shared common theme; and
7 placing the ~~at least one~~ additional set of the stored clusters into the
8 grouping.

1 56. (currently amended): A method according to Claim 36, further
2 comprising:
3 selecting at least one additional cluster comprising the extracted terms that
4 are unique from each other cluster; and
5 placing the at least one additional cluster into the grouping.